

What is claimed is:

- 1 1. A fuel additive composition comprising a lithium aromatic sulfonate and
2 an organic peroxide.
- 1 2. The fuel additive composition of claim 1, wherein the composition is
2 provided in a solvent-based system.
- 1 3. The fuel additive of claim 1, wherein there are two organic peroxides.
- 1 4. The fuel additive of claim 3, wherein one peroxide is *tert*-butyl
2 perbenzoate.
- 1 5. The fuel additive of claim 3, wherein one peroxide is 2-butanone
2 peroxide.
- 1 6. The fuel additive of claim 1, wherein the lithium aromatic sulfonate is a
2 C₇₋₃₅ alkylbenzenesulfonate.
- 1 7. The fuel additive of claim 1, wherein the lithium aromatic sulfonate is
2 didodecylbenzene sulfonate.
- 1 8. The fuel additive of claim 2, wherein the solvent is diphenyl.

1 9. A fuel composition comprising a fuel in admixture with an additive
2 comprising lithium benzene sulfonate and an organic peroxide, wherein the
3 composition is provided in the fuel in an amount of 1:100 to 1:10,000 parts by weight
4 of additive to weight of fuel.

1 10. The fuel composition of claim 9, wherein the fuel is gasoline.

1 11. The fuel composition of claim 9, wherein the fuel is diesel.

1 12. A method for operating a gasoline-powered, artificial ignition, internal
2 combustion engine, comprising providing to said engine a fuel comprising gasoline
3 and a fuel additive comprising a mixture of a lithium aromatic sulfonate and organic
4 peroxide.

1 13. The method of claim 12, wherein the fuel additive is provided in a
2 solvent-based system miscible with said gasoline fuel.

1 14. The method of claim 12, wherein the fuel comprises from 1 to 100 parts
2 by weight of additive to 10,000 parts by weight of fuel.